Swift Energy Operating LLC
Bayou Sale Production Facility - Bayou Sale Field
Franklin, St. Mary Parish, Louisiana
Agency Interest Number: 16846

Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Swift Energy Operating LLC
Bayou Sale Production Facility - Bayou Sale Field
Franklin St. Mary **Parish, Louisiana**
Agency Interest Number: 16846
Activity Number: PER20090001
Proposed Permit Number: 2660-00067-V2

I. APPLICANT

Company:
Swift Energy Operating LLC
PO Box 3092 MC 2.168 WL1
Houston, Texas 77253-3092

Facility:
Bayou Sale Production Facility - Bayou Sale Field
6972 Hwy 317
FranklinSt. Mary Parish, Louisiana
Latitude: 29° 36' 4.26"
Longitude: 91° 31' 20.7"

II. FACILITY AND CURRENT PERMIT STATUS

The Bayou Sale Production Facility separates natural gas and condensate/crude oil from nearby production facilities, and also dehydrates natural gas prior to sales or use as a fuel. The facility handles approximately 14,600 million standard cubic feet of natural gas per year. A description of the facility is as follows:

Separation
Gas production from nearby facilities is delivered via pipeline from the field where it is compressed to pipeline pressures. There are three compression systems within the Bayou Sale Production Facility which are a low pressure system, intermediate pressure system, and a high pressure system. All compressed natural gas is commingled and sent to a Glycol Dehydration unit before being sent to sales or use as a fuel for the facility.

Dehydration

A triethylene glycol (TEG) gas dehydration unit is used to dry natural gas prior to sales or use as a fuel. TEG strips water from the wet gas in a contactor resulting in a water-rich TEG stream and a dry sales gas stream. The Glycol Reboiler removes water and additional hydrocarbons from the TEG in the regenerator. A BTEX condenser controls the water and the hydrocarbon vapors exiting the Regenerator's Still Column Vent. Emissions from the Still Column Vent are sent to a Flare. Emissions from the glycol reboiler are calculated using AP-42 factors for Natural Gas Combustion.

Miscellaneous Sources

Fugitive natural gas and light liquid emissions occur from potential leaks from flanges, valves, and piping connections. Fugitive emissions are calculated using factors in American Petroleum Institute (API) Documents 4615, 4638, and 4589.

Four gas operated Diagram Pumps are utilized to transfer liquids throughout the facility. The emissions from these sources are estimated using manufacturer operating data and material mass balance.

A combustion flare is operating continually on-site. The flare achieves a 95% destruction efficiency of VOCs. Emissions from the flare are estimated using AP-42 factors for Natural Gas Combustion and proposed operating parameters.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application was submitted on July 27, 2009 requesting a Part 70 operating permit renewal for the Sale Production Facility - Bayou Sale Field. Additional information dated September 25, 2009 was also submitted.

Project

The Bayou Sale Production Facility is adding a compressor engine (Source 24) and deleting a compressor engine (Source 13). They are also updating the emissions based on a recent site inspection for eleven other existing compressor engines (Sources 03, 04, 05, 06, 07, 08, 09, 11, 12, 22 and 24), as well as the Flare (Source 14), Glycol Reboiler (Source 15A), and the Gas Operated Pumps (Sources 18, 19, 20, and 21). The facility fugitive's emissions (Source 17) also are being updated, due to changes at the facility.

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Proposed Permit

Permit 2660-00067-V2 will be the Part 70 operating permit renewal/modification of Part 70 operating permit 2660-00067-V1 for the Bayou Sale Production Facility.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	2.40	2.47	+0.07
SO_2	0.17	0.23	+0.06
NO_X	1058.01	1058.17	+0.16
CO	1128.51	1127.32	-1.19
VOC	12.92	17.02	+4.10

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

Exemptions are listed in Table 1 below.

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XI. Table 1. Explanation for Exemption Status or Non-Applicability of a Source

ID No:	Description	Requirement	Notes
UNF0001	Facility	LAC 33:III.15 Emission Standards for Sulfur Dioxide	DOES NOT APPLY. Facility burns only sweet gas containing <5 ppm H_2S
		LAC 33:III.2103 Storage of VOCs	DOES NOT APPLY. Facility handles condensate/crude oil prior to lease custody transfer.
		LAC 33:III.2107 VOC - Loading	DOES NOT APPLY. Facility loads crude and/or condensate prior to lease custody transfer.
		LAC 33:III.2109 Oil/Water - Separation	DOES NOT APPLY. Facility separator used in conjunction with production of crude oil and/or condensate
		LAC 33:III.2121 Fugitive Emission Control	DOES NOT APPLY. Facility is not a gas plant. No fugitive VOC monitoring is required.
		LAC 33:51 Comprehensive Toxic Air Pollutant Emissions Control Program	DOES NOT APPLY. Facility is a minor source of air toxics.
		LAC 33:III.59	EXEMPT. Oil and gas E&P facilities are exempt.
		40 CFR 52 Prevention of Significant Deterioration (PSD)	DOES NOT APPLY. Facility is an existing source and no major modification is planned.
		40 CFR 60, Subpart KKK Standards for Equipment Leaks of VOCs from Onshore Gas Plants	DOES NOT APPLY. Facility is not a gas plant. No VOC leak monitoring required for non-gas plant E&P facilities.
EQT14, EQT15, EQT16, EQT17 Gas Operated Pumps	Gas Operated Pump, Wilden M15; Gas Operated Pump, Wilden M15; Gas Operated Pump, Wilden M2; Gas Operated Pump, Wilden, M2	LAC 33:III.2115.H.1 Waste Gas Disposal	EXEMPT. Facility is in an attainment area and emits <100 tons VOC/year.
EQT1, EQT2, EQT6, EQT7	Compressor Engines 1B; 2B; 7B; 5B	Specific condition regarding testing of all engines >500 hp	DOES NOT APPLY. Engine is rated less than 500 hp.
		40 CFR 60 Subpart KKK Standards for Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants.	DOES NOT APPLY. Facility is not a gas plant.

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ID No:	Description	Requirement	Notes
EQT1, EQT2, EQT6, EQT7 Compressor Engines >500 hp.	Compressor Engines 1B; 2B; 7B; 5B	40 CFR 60 Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	EXEMPT. Engine was manufactured prior to July 1, 2008 and has not been modified or reconstructed since June 12, 2006.
		40 CFR 63 Subpart ZZZZ NESHAP for Stationary Reciprocating Internal Combustion Engines	EXEMPT. Engine was manufactured prior to July 1, 2008 and has not been modified or reconstructed since June 12, 2006.
EQT03, EQT04, EQT05, EQT07, EQT08, EQT09 Compressor Engines <500 hp	Compressor Engines 3B; 4B; 6B; 1C; 1A; 6A	40 CFR 60 Subpart KKK Standards for Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants.	DOES NOT APPLY. Facility is not a gas plant.
		40 CFR 60 Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	EXEMPT. Engine was manufactured prior to July 1, 2008 and has not been modified or reconstructed since June 12, 2006.
		40 CFR 63 Subpart ZZZZ NESHAP for Stationary Reciprocating Internal Combustion Engines	EXEMPT. Engine was manufactured prior to July 1, 2008 and has not been modified or reconstructed since June 12, 2006.
EQT20 Compressor Engine Subject to 40 CFR 60, Subpart JJJJ	Compressor Engine 5A	40 CFR 60 Subpart KKK Standards for Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants.	DOES NOT APPLY. Facility is not a gas plant.
FUG01 Fugitives	Fugitives	LAC 33:III.2121 Fugitive Emission Control	DOES NOT APPLY. Facility is not a gas plant. No fugitive VOC monitoring is required.
		40 CFR 60, Subpart KKK Standards for Equipment Leaks of VOCs from Onshore Gas Plants	DOES NOT APPLY. Facility is not a gas plant.

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Air Quality Analysis

Emissions associated with the proposed permit renewal were reviewed by the Air Quality Assessment division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

The facility did not request a permit shield.

VI. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

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Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.